

REMARKS

Applicants thank the Examiner for consideration of the Information Disclosure Statement (IDS) filed on June 10, 2005. Applicants respectfully note that the Examiner has not acknowledged the claim for foreign priority in this Application, and request acknowledgment thereof, i.e., acknowledgment of the certified copy of the foreign priority application filed on June 10, 2005.

In response to the Office Action dated January 18, 2008, Applicants request reconsideration based on the amendments herein and at least the following remarks. Applicants respectfully submit that the claims as presented herein are in condition for allowance.

Claims 1-6 are pending in the present application. Claims 1-6 have been amended.

No new matter has been added by the amendments. Applicants respectfully request reconsideration of claims 1-6 based upon the amendments and at least the following remarks.

Claim Rejections Under 35 U.S.C. §102

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007 (1988). Furthermore, the single source must disclose all of the claimed elements “*arranged as in the claim.*” *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984) (Emphasis added).

The Examiner rejects claims 5 and 6 under 35 U.S.C. §102(b) as being allegedly anticipated by Wei, et al. (U.S. Patent No. 5,480,810, hereinafter “Wei”). Specifically, on page 2 of the Office Action, the Examiner states that Wei discloses all of the elements of claims 5 and 6, primarily at FIGS. 1 and 2. Applicants respectfully traverse for at least the following reasons.

It is respectfully noted that Wei does not teach or disclose *the region disposed between the source electrode and the drain electrode is absent semiconductor material to transmit a signal to the data line*, as disclosed in amended independent claim 5.

Specifically, as the Examiner states on page 2 of the Office action, Wei discloses (in FIGS. 1a, 1c and 1f) a doped semiconductor material layer 156 having a disconnected portion above the gate electrode 122, i.e., between the drain electrode 162 and the source electrode 164. However, as shown in FIG. 1f, the device of Wei further includes an additional semiconductor material layer 154 (labeled only in FIG. 1c) which is not disconnected between the drain electrode 162 and the source electrode 164. As a result, the TFT 150 of Wei is functional, i.e., transmits a signal from the source electrode 164 to the drain electrode 162 via the semiconductor material layer 154 when the TFT 150 is turned on by an appropriate signal applied to the gate electrode 122.

In contrast and in accordance with the present invention, as disclosed in amended claim 5 and shown at least in FIG. 8 and described at page 7, lines 10-12 of the instant application as filed, the semiconductor layer 150 is completely removed from a region disposed above the gate electrode 123, i.e., a region between the drain electrode 175 and the source electrode 173. As a result, a signal is effectively prevented from being transmitted to the data line 171 via the source electrode 173 of the present invention, contrary to any teaching or suggestion in Wei.

Therefore, Wei neither teaches nor suggests *the region disposed between the source electrode and the drain electrode is absent semiconductor material to transmit a signal to the data line*. Thus, it is respectfully submitted that claim 5, including claim 6 depending therefrom, defines over Wei.

Accordingly, it is respectfully requested that the above rejection to claims 5 and 6 under 35 U.S.C. § 102(b) be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art and that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

The Examiner rejects claims 1 and 2 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Wei in view of Lee, et al. (European Patent No. EP 0 788 277 A2, hereinafter "Lee '277"). Specifically, on page 3 of the Office Action, the Examiner states that Wei teaches all elements of Claims 1 and 2 except *a light blocking layer covering the photodiode*, which the Examiner further states is taught by Lee '277, primarily at column 13, lines 25-26. Applicants respectfully traverse for at least the following reasons.

Applicants respectfully submit that Kimura neither teaches nor suggests *a passivation layer disposed on the photodiode, the semiconductor layer, the data wire and the drain electrode, the passivation layer having a contact hole which exposes the second electrode; a bias signal line disposed on the passivation layer and connected to the second electrode through the contact hole; and a light blocking layer disposed directly on the passivation layer and the bias signal line to cover the photo diode*, as in amended independent claim 1.

Specifically, referring to FIG. 3 of Lee '277, the radiation shield 37 of Lee '277 (allegedly analogous to the light blocking member 196 of the present invention) is clearly disposed directly and exclusively on the top electrode 86, since the top electrode 86 completely covers the dielectric layer 84 above the photoconductive layer 82. In contrast and in accordance with the present invention, the light blocking member 196 is disposed directly on both the passivation layer 180 as well as the bias signal line 190 to cover the photodiode, as shown in FIG. 4.

Further, neither Wei nor Lee '277, alone or in combination, teach or suggest a passivation layer formed on each of a photodiode, a semiconductor layer, a data wire and a drain electrode, wherein the passivation layer has a contact hole which exposes a second electrode such that the second connects to a bias signal line therethrough.

Therefore, neither Wei nor Lee '277, alone or in combination, teach or suggest a passivation layer disposed on the photodiode, the semiconductor layer, the data wire and the drain electrode, the passivation layer having a contact hole which exposes the second electrode; a bias signal line disposed on the passivation layer and connected to the second electrode through the contact hole; and a light blocking layer disposed directly on the passivation layer and the bias signal line to cover the photo diode as recited in amended independent claim 1.

Thus, it is respectfully submitted that claim 1, including claim 2 depending therefrom, defines over the cited references.

Accordingly, it is respectfully submitted that the rejection of claims 1 and 2 under 35 U.S.C. § 103(a) be withdrawn.

The Examiner rejects claims 3 and 4 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Wei in view of Lee '277, in further view of Lee, et al. (U.S. Patent No. 5,895,936, hereinafter "Lee '936"). Specifically, on pages 3-4 of the Office Action, the Examiner states that Wei in view of Lee '277 teaches all elements of Claims 3 and 4 except *the light blocking layer connected to a bias signal line*, which the Examiner further states is taught by Lee '936, primarily at column 5, lines 16-20. Applicants respectfully traverse for at least the following reasons.

As similarly described in greater detail above with respect to the 103(a) rejection of claim 1, Applicants respectfully note that neither Wei nor Lee '277, alone or in combination, teach or suggest a passivation layer disposed on the photodiode, the semiconductor layer, the data wire and the drain electrode, the passivation layer having a contact hole which exposes the second electrode as in amended independent claim 3.

In addition, Lee '936 fails to teach or suggest a bias signal line disposed directly on the passivation layer, connected to the second electrode through the contact hole and comprising a light blocking layer which covers the photo diode, as in amended independent claim 3. Specifically, Applicants respectfully disagree that component 132 of Lee '936 is a "light blocking layer" as stated on page 4 of the Office action. More specifically, referring to FIG. 5 and 7 of Lee '936 a top electrode 132 is shown. The top electrode 132 is described in detail in Lee '936, primarily at column 4, line 64 and column 5 lines 16-20. Importantly, the top electrode 132 is a "conductive electrode" (column 3, line 18 and as disclosed in claim 4 of Lee '936). Thus, the top electrode 132 of Lee '936 is analogous only to the bias signal line 190 of the present invention, i.e., the top electrode 132 is a conductive electrode which biases the sensor of Lee '936 to allow measurement of charges resulting from interactions within the photoconductive layer 130 (FIGS. 5 and 7). Put another way, including a light blocking layer with the top electrode 132 of Lee '936 would render the device of Lee '936 inoperable, e.g., unsatisfactory for its intended purpose. Thus, Lee '936 actually teaches away from a bias signal line [the upper electrode 132 of Lee '936] disposed directly on the passivation layer, connected to the second electrode and comprising a light blocking layer [not taught or suggested in Lee '936] which covers the photo diode, as in amended independent claim 3.

Thus, Applicants respectfully submit that claim 3, including claim 4 depending therefrom, defines over the cited references.

Accordingly, it is respectfully submitted that the rejection of claims 3 and 4 under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

In view of the foregoing remarks distinguishing the prior art of record, Applicants respectfully submit that this application is in condition for allowance. Early notification to this effect is requested. The Examiner is invited to contact Applicants' attorneys at the below-listed telephone number regarding this Amendment or otherwise regarding the present application in order to address any questions or remaining issues concerning the same. If there are any charges due in connection with this response, please charge them to Deposit Account 06-1130.

Respectfully submitted,

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